Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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Microsemi LAWRENCE

TECHNICAL DATA

NPN POWER SILICON TRANSISTOR

Qualified per MIL-PRF-19500/526

Devices	*Qualified Level*
2N3879	**JANTX JANTXV**

MAXIMUM RATINGS

Ratings	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	75	Vdc
Collector-Base Voltage	V_{CBO}	120	Vdc
Emitter-Base Voltage	V_{EBO}	7.0	Vdc
Base Current	I_B	5.0	Adc
Collector Current	I_C	7.0	Adc
Total Power Dissipation @ $T_C = 25^0C$ (1)	P_T	35	W
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200	^0C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	5.0	$^0C/W$

1) Derate linearly 200 mW/^{0}C for $T_C > 25^0C$

TO-66*
(TO-213AA)

*See Appendix A for Package Outline

ELECTRICAL CHARACTERISTICS ($T_C = 25^0C$ unless otherwise noted)

Characteristics	Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage I_C = 200 mAdc	$V_{(BR)CEO}$	75		Vdc
Collector-Emitter Cutoff Current V_{CE} = 50 Vdc	I_{CEO}		5.0	Vdc
Collector-Emitter Cutoff Current V_{CE} = 100 Vdc, V_{BE} = 1.5 Vdc	I_{CEX}		4.0	mAdc
Collector-Base Cutoff Current V_{CB} = 120 Vdc	I_{CBO}		25	mAdc
Emitter-Base Cutoff Current V_{EB} = 7.0 Vdc	I_{EBO}		10	mAdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS [2]				
Forward-Current Transfer Ratio I_C = 0.5 Adc, V_{CE} = 5.0 Vdc I_C = 4.0 Adc, V_{CE} = 5.0 Vdc I_C = 4.0 Adc, V_{CE} = 2.0 Vdc	h_{FE}	 40 20 12	 80 100	
Collector-Emitter Saturation Voltage I_C = 4.0 Adc, I_B = 0.4 Adc	$V_{CE(sat)}$		1.2	Vdc
Base-Emitter Saturation Voltage I_C = 4.0 Adc, I_B = 0.4 Adc	$V_{BE(sat)}$		2.0	Vdc
Base-Emitter Voltage I_C = 4.0 Adc, V_{CE} = 2.0 Vdc	$V_{BE(on)}$		1.8	Vdc
DYNAMIC CHARACTERISTICS				
Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio I_C = 500 mAdc, V_{CE} = 10 Vdc, f = 10 MHz	$\lvert h_{fe} \rvert$	4.0	20	
Output Capacitance V_{CB} = 10 Vdc, I_E = 0, 0.1 MHz ≤ f ≤ 1.0 MHz	C_{obo}		175	pF
SWITCHING CHARACTERISTICS				
Turn-On Time V_{CC} = 30 Vdc; I_C = 4.0 Adc; I_B = 0.4 Adc	t_{on}		0.44	µs
Turn-Off Time V_{CC} = 30 Vdc; I_C = 4.0 Adc; I_B = -I_B = 0.4 Adc	t_{off}		1.2	µs

SAFE OPERATING AREA

DC Tests

T_C = +25^{0}C, 1 Cycle, t = 1.0 s

Test 1

V_{CE} = 5.0 Vdc, I_C = 7.0 Adc

Test 2

V_{CE} = 28 Vdc, I_C = 1.25 Adc

Test 3

V_{CE} = 40 Vdc, I_C = 500 mAdc

Test 4

V_{CE} = 75 Vdc, I_C = 100 mAdc

(2) Pulse Test: Pulse Width = 300µs, Duty Cycle ≤ 2.0%.